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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,522	12/21/2001	Michael T. Coram	ICRU006/00US	2168

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EXAMINER

ALAUBAIDI, HAYTHIM J

ART UNIT	PAPER NUMBER
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2161

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,522

Applicant(s)

CORAM ET AL.

Examiner

Haythim J. Alaubaidi

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-56 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/4/02 and 3/25/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is a first Non-Final Office action in regard to Application No. 10/024,522 filed on December 21, 2001.
2. Claims 1-56 are presented for examination, of which claims 1, 17, 31, 43, 49 and 54 are independent Claims.
3. Claims 1-14 and 16-56, are rejected under 35 U.S.C. 103(a).
4. Claim 15, is objected to as being dependent upon a rejected base claim, but would be allowable (see reasons for allowance below).

Priority

5. The Examiner Acknowledges Applicant's claim for priority date of February 8, 2001 for Application No. 09/778,716.

Oath/Declaration

6. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The claim for benefit of a prior United States Application No. 09/778,716 under 35 USC § 120. is showing In the Oath/declaration to be February 28, 2001 wherein the Specification of the current Application (Page No. 1, Line 5) indicate a priority date of February 8, 2001.

According to the USPTO records, Application No. 09/778,716 contains a filing date of February 8, 2001.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-14 and 16-53, are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham Spencer (U.S. Patent No. 5,915,249 and Spencer hereinafter) in view of Bridget T. Mattern (U.S. Patent No. 6,763,342 and Mattern hereinafter).

Regarding Claims 1, 17, 31, 38, 43-45 and 49, Spencer discloses:

- receiving an informational database request;
- determining whether a result set corresponding to said informational database request is stored in a cache (Col 2, Lines 46-67; see also Figure 5a, Element No. 517 and 525 and the connection in between);

- and if so, returning said result set in response to said informational database request (Col 2, Lines 63-67, i.e. returned; see also Figure 5a, Element No. 525 and 527);
- and if not, sending said informational database request to a database (Col 3, Lines 6-14);
- wherein said database generates said result set (Figure 5a, Element No. 525 and 527); and
- with reference to the cache-worthiness of said result set (Col 3, Lines 21-24; see also Lines 30-31; and see also Lines 55-67; see also Figure 5a, Element No. 520 and 526).

Spencer discloses all of the claimed limitations above, in addition, Spencer address a feature that updates the result set (Figure 5a, Element No. 525, i.e. update), which could be interpreted to read on the claimed limitation of “determining whether to add said result set” as in adding new result set to the old or previous result set. Yet it is not explicitly indicating the adding feature as indicated in the claimed limitation. The Examiner is incorporating a second reference for Mattern to further address the feature of adding the results. Mattern discloses, determining whether to add said result set (Figure No. 4 and corresponding text; see also Col 5, Lines 33-54, i.e. the knowledge building component 230 provides the ability to enter, delete, and modify knowledge, as exemplified by questions, replies, and solutions; see also Col 11, Lines 10-11, 18-21 and 23-29.

Given the intended broad application of the Spencer system, it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Spencer with the teachings of Mattern to include a feature where result sets can be added in order to reach a level of perfection that would be able to answer and respond to more queries and/or queries especially when dealing with knowledge systems where their primary task is the ability to answer queries and questions.

Regarding Claims 2, 3, 5, 18, 19 and 21, the limitation of this claim has been noted in the rejection of claim 1, above. In addition, Mattern discloses comparing requests (Col 7, Lines 24-34, i.e. knowledge module 208 to retrieve the question at the root node of the knowledge module 208 associated with the area of interest identified by the user machine).

Regarding Claims 4 and 20, Spencer discloses a parameter (Figure No. 3a and corresponding text, i.e. Element No. 201 or 203) and a query string (Figure No. 3a and corresponding text, i.e. Element No. block 1 or 2).

Regarding Claims 6 and 22, Mattern discloses transactional request (Col 3, Lines 11-21).

Regarding Claims 7 and 23, Spencer discloses:

- collecting cache-worthiness data for said result set (Figure 4a, and corresponding text); and

- determining cache-worthiness value (Figure 4a, and corresponding text).

Regarding Claims 8 and 24, Spencer discloses the number of times the result set has been returned (Col 13, Lines 27-43).

Regarding Claims 9n and 25, Spencer discloses the size of the result set (Col 12, Lines 34-39).

Regarding Claims 10 and 26, Spencer discloses the amount of time required to generate said result set (Col 16, Lines 38-39; see also Col 17, Lines 38-41 and 49-53).

Regarding Claims 11 and 27, Spencer discloses the number of times said result set has been invalidated (Col 16, lines 25-34).

Regarding Claims 12, 28 and 36-37, Spencer discloses degrading said cache-worthiness (Col 15, Lines 51-54; see also Col 17, Lines 33-38).

Regarding Claim 13, 29 and 40, Spencer discloses degrading said cache-worthiness based on time (Col 16, Lines 35-38, i.e. If the query can be terminated before the contribution cache 209 is exhausted).

Regarding Claims 14, 30 and 39, Spencer discloses a miss on cache (Col 16, Lines 17-20, i.e. Where a query term is missing from the document).

Regarding Claim 16, Spencer discloses cache-worthiness value = $(\text{hit} / \text{invalid} + 1) * \text{time}$ (Col 3, Lines 13-32).

Regarding Claims 32-35 and 41-42, Spencer discloses updating the result sets (Col 12, Line 66 through Col 13, Line 2; see also Col 14, Lines 58-62; see also Col 15, Lines 5-9).

Regarding Claims 46-47 Spencer discloses client and server resources (Figure No. 1 and 2 and corresponding text).

Regarding Claim 48, Spencer discloses a result set cache comprises a stand-alone application (Figure No. 2, Element No. 107, i.e. interface).

Regarding Claims 50 and 51, the limitations of these claim were addressed in rejecting Claims 1 and 4 above. In addition, Mattern discloses client identifier (Mattern, Figure No. 2, Element No. 204 and corresponding text; see also Col 1, Lines 44-46) and query string (Mattern, Figure No. 3 and corresponding text).

Regarding Claim 52, Spencer discloses restricting access to the client for certain result sets (Figure No. 4e, i.e. the result sets for the terms apple, banana and orange that were not selected by the system (were restricted).

Regarding Claim 53, the limitations of this claim was addressed in rejecting Claims 1 and 4 above. In addition, Mattern discloses translating database requests received from said clients into canonical form (simple format) (Mattern, Figure No. 3, i.e. the questions formatted in a simple format or easy to understand).

9. Claims 54-56, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridget T. Mattern (U.S. Patent No. 6,763,342 and Mattern hereinafter) in view of Graham Spencer (U.S. Patent No. 5,915,249 and Spencer hereinafter).

Regarding Claim 54, Mattern discloses:

- receiving a database request (Figure No. 2, i.e. the arrows connecting the user machine (204) with the Knowledge Management Component (206) and corresponding text; see also Figure No. 3 and corresponding text; see also Figure No. 5, Element No. 502);
- determining whether said database request is informational or transactional (Col 3, Lines 11-21).

Mattern reference discloses all of the claimed subject matter set forth above, except it does not explicitly indicate the step of invalidating result sets stored in the result set cache that include data (terms) targeted by said database request. However Spencer discloses invalidating result sets stored in the result set cache that include data (terms) targeted by said database request (Col 16, lines 25-34).

Given the intended broad application of the Spencer system, it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Mattern with the teachings of Spencer to by indicating the results to be valid or note in order to save memory space by including only the valid result sets and to increase the speed by minimizing the amount of result set that need to be sent to the valid ones only.

Regarding Claim 55, Spencer discloses:

- wherein each result set is generated based on one or more objects (terms) stored in a database (Figure No. 4e, i.e. the result sets are

generated based on the search for the terms apple, banana and orange);

- parsing said database request to determine whether any of said one or more objects (terms) are affected by said database request (Figure No. 4e, the results for the terms (objects) search (apple, banana and orange) that are showing in the figure indicate that these terms (objects) are affected by the search request and therefor its showing these results)¹; and
- marking those results (Figure 4e, i.e. the attribute values in the fields are an indication of a marking.

Regarding Claim 56, Spencer discloses invalidating result sets based on time (Col 16, Lines 35-38).

Allowable Subject Matter

10. Claim 15, is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is the Examiner statement for reasons of allowance:

¹ Parsing = the act whereby a document is scanned, and the information contained within the document is filtered into the context of the elements in which the information is structured.
orworld.uni-paderborn.de/downloads/glossary/glossary.html

Regarding Claim 15, applicant's particular system and associated methods for an environment that calculates the average time to execute and fetch a result set of a query is the way the mathematical equation is calculating the average time for a query to execute and by degrading the time data according to:

$ToavgTime = avgTime + ((newTime - avgTime) / hit)$ wherein:

avgTime = an average time to execute and fetch said result set;

newTime = the most recent measurement of the time to execute and fetch said result set; and

hit = the current count of the number of times said result set is requested in combination with the other limitations of the claims, was not disclosed by, would not have been obvious over, nor would have been fairly suggested by the prior art of record or that encountered in searching of the prior art.

Other Prior Art Made of Record

12. a. Glance et al. (U.S. Patent No. 6415368) discloses a system and method for caching;

b. French et al. (U.S. Patent No. 5794228) discloses a database system with buffer manager providing per page native data compression and decompression;

c. Bierma et al. (U.S. Patent No. 5758149) discloses a system for optimally processing a transaction and a query to the same database concurrently; and

d. Johnson et al. (U.S. Patent No. 5151989) discloses a directory cache management in a distributed data processing system.

Art Unit: 2161

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Points of Contact

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haythim J. Alaubaidi whose telephone number is (571) 272-4014. The examiner can normally be reached on Monday - Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (571) 272-4023.

Any response to this office action should be mailed to:

The Commissioner of Patents and Trademarks, Washington, D.C. 20231 or telefax at our fax number (703) 872-9306.

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, 6th Floor Receptionist, Arlington, Virginia. 22202.

Haythim J. Alaubaidi

Patent Examiner
Technology Center 2100
Art Unit 2161
December 6, 2004


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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100